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EXAMINER DISTEFANO, GREGORY A				
ART UNIT 2176		PAPER NUMBER		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/575,575

**Applicant(s)**

SHRUBSOLE, PAUL

**Examiner**

GREGORY A. DISTEFANO

**Art Unit**

2176

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10, 12-14 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-14 and 16-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB08)
- Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This action is in response to the amendment filed on 6/6/2008.
2. Claims 1-10, 12-14, and 16-20 are currently pending.

***Claim Objections***

3. Claim 12 is objected to because of the following informalities: claim 12 has been amended to be dependent upon its self. For purposes of examination, claim 12 will be read as being dependent upon claim 1. Appropriate correction is required.

***Claim Rejections - 35 USC § 101***

4. The previous rejections of Claims 1-7 and 11-12 under 35 U.S.C. 101 are hereby withdrawn due to the 6/6/2008 amendment.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, 4-6, 8-10, 12-14, 16, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomm (US 6,246,403) in view of Tran (US 6,054,990), and further in view of Scott et al. (US 5,675,752), hereinafter Scott.

7. As per claims 1, 13, and 20, Tomm teaches the following:

*central processing unit and at least a memory, including a computer program for instructing the processing unit, (column 3, lines 44-46), i.e. Fig. 1 is a pictorial representation of a computer 4 used in accordance with the present invention by a user to create a text file, to represent:*

*the sketch being representative of a graphic user interface (GUI) to be created, (column 1, lines 41-43), i.e. drawing programs are currently available on the market which enable a person to create a GUI by drawing the desired GUI;*

*a hierarchy determiner for determining, from the conformed versions, a hierarchy of relative containment among said conformed versions, (column 7, lines 9-11), i.e. once the list of boxes has been generated, the collection of boxes is organized into a data tree structure, as indicated by block 70; and*

*a description generator for generating, from said hierarchy, a user interface description for creating the GUI, (abstract), once the data tree structure has been created, a GUI generating software program can use the data tree structure to generate the GUI.*

*said hierarchy reflecting a stacking order based on at least one of an annotation to a sketched version of an object, a containment of un-annotated objects within an object and data types of un-annotated objects, wherein said annotation indicates a priority for the annotated object and said un-annotated objects are recognized to obtain a priory of the containing object; and wherein said stacking order determines to which of*

*two objects has priority to overlay the other of the two in said GUI*, (column 4, lines 43-45), i.e. it will be assumed herein that if a point lies on the top or right edges 17 and 19 of the box 10, the box 10 encloses the point.

However, Tomm does not explicitly teach the inner workings of using a sketch recognition method for input. Tran teaches the following:

*a sketch identifier for examining a manual sketch of objects to identify sketched versions of the objects*, (abstract), i.e. an object classification and recognition capability is provided to allow the present invention to recognize objects being sketched by the user;

*a sketch normalizer for conforming the identified sketched versions to resemble respective reference images*, (abstract), i.e. an object classification and recognition capability is provided to allow the present invention to recognize objects being sketched by the user and convert the hand sketches into computer aided design like drawings;

It would have been obvious to one of ordinary skill in the art to have modified Tomm's GUI design method with the sketch recognition method of Tran. One of ordinary skill in the art would have been motivated to have made such modifications because Tomm directly teaches in their background of invention in column 1, lines 41-57, that at the time it was well known in the art that their existed GUI creating programs which accepted user input through a drawing program. Furthermore, as Tomm teaches in their abstract, their text file which they use to generate a GUI comprises a "two-dimensional pictorial representation". As was well known in the art, CAD drawings, of which Tran is directed towards, may be represented as a two-dimensional pictorial

representation. Still further, as Tomm teaches in their abstract, their method generates a GUI from a text file. Tran teaches in column 7, line 66 – column 8, line 1, that as "drawn" data is sent to their handwriting recognizer, the written instructions are converted into text data.

8. Regarding claim 2, modified Tomm teaches the method of claim 1 as described above. Tran further teaches the following:

*said reference images comprise vector images*, (column 14, lines 21-23), i.e. from step 153 to 155, the routine next determines whether the drawing is to be saved as a hand-drawn bitmap sketch or as a converted series of vectors and/or predefined objects in step 156.

9. Regarding claim 4, modified Tomm teaches the method of claim 1 as described above. Tran further teaches the following:

*the manual sketch includes characters, and wherein the sketch identifier is configured for applying optical character recognition (OCR)*, (column 8, lines 5-7), i.e. with suitable recognition software, text and numeric information can be entered into the pen-based computer system in a similar fashion.

10. Regarding claim 5, modified Tomm teaches the method of claim 1 as described above. Tomm further teaches the following:

*said description generator is further configured for generating the user interface description to contain a layout of said conformed versions, (abstract), i.e. the GUI constructing program scans the text file and determines the x and y coordinates of the corners of all of the boxes and the data type associated with each box.*

11. Regarding claim 6, modified Tomm teaches the method of claim 1 as described above. Tomm further teaches the following:

*the description generator is configured to generate the user interface description into a format specific to a target platform for the GUI, (column 3, lines 37-43), i.e. it should also be noted that the GUI constructing program of the present invention is suitable for use with different types of windowing systems.*

12. Regarding claim 8, modified Tomm teaches the method of claim 1 as described above. Tran further teaches the following:

*an electronic storage medium, (column 6, lines 57-59), i.e. the processor 20 is also connected to a random access memory 22 for storing various run-time variables and data arrays;*

*a hand-held pen for creating the sketch, (column 7, lines 31-35), i.e. in one embodiment where the computer accepts handwritings as an input medium from the user, a combination pen/digitizer unit 25, and a display LCD panel 26 having a viewing screen exposed along one of the planar sides of the enclosure are provided; and*

*a digitizer for recording into the medium the sketch in real time as the sketch is being created*, (column 7, lines 31-35), i.e. in one embodiment where the computer accepts handwritings as an input medium from the user, a combination pen/digitizer unit 25, and a display LCD panel 26 having a viewing screen exposed along one of the planar sides of the enclosure are provided.

13. Regarding claim 9, modified Tomm teaches the method of claim 8 as described above. Tomm further teaches the following:

*the apparatus stores in said medium a normalized sketch comprising the conformed versions*, (column 3, lines 64-66), i.e. once the text file has been created, the text file is stored in a memory device which may be comprised by computer 4.

However, as described above, Tomm does not explicitly describe the inner workings of a sketch recognition method for input. Tran further teaches the following:

*said apparatus further comprising a sketch editor for editing said normalized sketch stored in said medium*, (column 11, lines 34-37), i.e. in Fig. 2, the menu 100 allows the user to control the sketching system. Preferably, the menu 100 is a pull-down menu with a number of choices, including File, Edit, Object and View;

*said digitizer being configured for augmenting, according to input from the pen, said normalized sketch stored in said medium*, (column 12, lines 32-36), i.e. referring now to Fig. 3, the operation of the magnifier 108 of Fig. 2 is disclosed. Upon beginning the process in step 120 of Fig. 2, the routine displays a magnifier icon whenever the pen touches the LCD screen 26 of the computer system.



14. Regarding claim 10, modified Tomm teaches the method of claim 1 as described above. Tran further teaches the following:

*an electronic storage medium for storing said reference images, (column 7, lines 2-3), i.e. the RAM 22 stores a database of the drawings of the present invention; and wherein the sketch identifier is configured for using the stored reference images in identifying said sketched versions, (column 13, lines 44-49), i.e. the routine of Fig. 5 will compare the sketches against a library containing definitions and symbols for predetermined objects if the user does not specify in advance that her or she is writing text, in such case the handwriting recognition engine is to be applied.*

15. Regarding claim 12, modified Tomm teaches the method of claim 1 as described above. Tomm further teaches the following:

*said apparatus being further configured to recognize that said annotation indicates priority based on a dividing line within said sketched version of an object, (column 4, lines 43-45), i.e. it will be assumed herein that if a point lies on the top or right edges 17 and 19 of the box 10, the box 10 encloses the point, (column 4, line 67 - column 5, lines 5), i.e. the boxes 23 and 25 are dialog boxes containing GUI components commonly referred to as push buttons. The indication "button" on the top edges of the boxes 23 and 25 corresponds to the data type of the boxes and indicates to the GUI constructing program that the box data type is push button.*

The examiner interprets Tomm's teaching of a top edge line which visually defines a box to encompass applicant's limitation of a "dividing line".

16. Regarding claim 14, modified Tomm teaches the method of claim 13 as described above. Tran further teaches the following:

*the sketching step further includes the step of sketching, as an annotation to at least one of the objects, a label of a function of the object in said GUI, (column 4, lines 49-57), i.e. each box also has a name and a data type associated with it, which are text strings that are used by the windowing system executing the GUI construction program to create windows and other GUI components. The name is simply a word or a combination of words that will be displayed in the GUI window associated with the box. The data type informs the GUI constructing program of the manner in which the box must be handled by the GUI constructing program.*

17. Regarding claim 16, modified Tomm teaches the method of claim 13 as described above. Tran further teaches the following:

*at least one of the sketched versions of an object intersects another sketched version of an object, (column 6, lines 1-4), i.e. this data tree structure contains the relative dimensions and locations of the boxes that appear in the input text file, the names and types of the boxes, and the enclosure relationships among the boxes; and wherein the sketching step further includes the step of sketching, as an annotation to at least one of two mutually intersecting ones of the versions, a label of a*

*function of the respective object in said GUI*, (column 4, lines 49-57), i.e. each box also has a name and a data type associated with it, which are text strings that are used by the windowing system executing the GUI construction program to create windows and other GUI components. The name is simply a word or a combination of words that will be displayed in the GUI window associated with the box. The data type informs the GUI constructing program of the manner in which the box must be handled by the GUI constructing program.

18. Regarding claim 18, modified Tamm teaches the method of claim 13 as described above. Tran further teaches the following:

*the sketching step further comprises the steps of:*

*manipulating a pen by hand to create the sketch*, (abstract), i.e. an object classification and recognition capability is provided to allow the present invention to recognize objects being sketched by the user; and

*recording into the medium the sketch in real time as the sketch is being created*, (column 7, lines 60-63), i.e. as the CPU 20 senses the position and movement of the stylus, it generates a corresponding image on the screen to create the illusion that the pen or stylus is drawing the image directly upon the screen.

19. Regarding claim 19, modified Tamm teaches the method of claim 13 as described above. Tran further teaches the following:

*the step of pre-storing said reference images to aid in the identification performed in the examining step*, (column 13, lines 44-49), i.e. the routine of Fig. 5 will compare the sketches against a library containing definitions and symbols for predetermined objects if the user does not specify in advance that her or she is writing text, in such case the handwriting recognition engine is to be applied.

20. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over modified Tomm as applied to claim 1 above, and further in view of Eller et al. (US 5,287,417), hereinafter Eller.

21. Regarding claim 3, modified Tomm teaches the method of claim 1 as described above. However, neither Tomm nor Tran explicitly teaches refining the sketches. Eller teaches the following:

*the sketch normalizer is configured for straightening lines and making lines mutually parallel*, (column 3, lines 59-61), i.e. after the objects are recognized, they are displayed with perfected angles and lines.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the sketch recognition method of Tomm in view of Tran, with the refining method of Eller. One of ordinary skill in the art would have been motivated to have made such further modifications because Tomm directly teaches in their background of invention in column 1, lines 41-57, that at the time it was well known in the art that their existed GUI creating programs which accepted user input

through a drawing program. Furthermore, both Tran and Eller are analogous art in the field of interpreting hand drawn input.

22. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over modified Tomm as applied to claim 1 above, and further in view of Carroll (US 2002/0085020).

23. Regarding claim 7, modified Tomm teaches the method of claim 1 as described above. However, neither Tomm nor Tran explicitly teaches the description is written in a structured mark-up language. Carroll teaches the following:

*the description generator is configured for generating the description into a hierarchical, structured mark-up language, (abstract), i.e. an applications graphical user interface is specified using an XML document as an application interface file. At application compile time this application interface file is parsed, and the specifications therein used to retrieve graphical screen components from an interface library to create the user interface.*

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the user interface document generation method of Tomm with the XML user interface document of Carroll. One of ordinary skill in the art would have been motivated to have made such modifications because both Tomm and Carroll are analogous art in the field of generating user interfaces from document files.

24. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over modified Tomm as applied to claims 1 and 16 above, and further in view of Alexander (US 6,118,451).

25. Regarding claim 17, modified Tomm teaches the method of claim 16 as described above. Tomm teaches the following:

*the hierarchy determining step relatively positions in said hierarchy respective objects of said two mutually intersecting ones*, (column 6, lines 1-4), i.e. this data tree structure contains the relative dimensions and locations of the boxes that appear in the input text file, the names and types of the boxes, and the enclosure relationships among boxes.

As was well known in the art at the time, in a data tree structure, child nodes are connected to their parents, making them relatively positioned in the hierarchy.

However, Tomm does not explicitly teach a method of relatively positioning boxes in the hierarchy based on an annotation. Alexander teaches the following:

*based on an annotation created in the annotation sketching step*, (column 24, lines 53-57), i.e. the Z order list data structure 612 contains an identification 722 of all dialogs currently being managed by the dialog manager 402. Associated with each is a Z number 724 identifying the position in the visual sequence on the display screen.

As Tomm's method already bases their hierarchical tree on "enclosure relations", e.g. overlays, it would have been obvious to one of ordinary skill in the art to have used the Z values of modified Tomm to position boxes in their hierarchical tree.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the indications of Tomm to further include the "Z number" value of Alexander. It would have been obvious to one of ordinary skill in the art to have made such modifications because Tomm directly teaches that the x and y coordinates of each box are stored in a list in memory in column 6, lines 41-45, and Alexander teaches of a similar list of storing the z value of each box in column 24, lines 53-58. Alexander also teaches in column 24, lines 45-48, that "the Z axis is normal to the two-dimensional display screen. The Z order identifies the order of the displayed dialog boxes as they are layered on the display screen". Tomm shows of a desire for layering their boxes as may be seen in their teaching of column 6, lines 1-4, which teaches that their data tree contains "enclosure relationships", which is clear to one of ordinary skill in the art to be a form of overlay. This interpretation is further reinforced in Tomm's showing of Fig. 2B, where Tomm shows three different boxes (22, 23, and 25) "overlying" a larger box (21). Still further, Tomm and Alexander are analogous art in the field of dialogue boxes.

### ***Response to Arguments***

26. Applicant's arguments filed 6/6/2008 have been fully considered but they are not persuasive. Applicant's arguments shall be addressed in the order in which they were presented.

27. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, motivation may be found within the teachings of Tomm and Tran. Firstly, Tomm states in their background of their invention in column 1, lines 41-57, that it was well known in the art that drawing programs (such as Tran's method) were used to create GUIs. Applicant argues on page 8 of their amendment that Tomm teaches away from such a modification. However, further motivation may be found in the format in which either system handles data. Tomm teaches of a method of utilizing a text file to generate a GUI, where the text file is a "two dimensional pictorial representation" of the GUI to be created. Tran teaches in column 7, line 66 - column 8, line 1, that drawn data is converted into text data. Hence, Tran uses hand-drawn data to create text data and Tomm utilizes text data to create a GUI, thus making the two arts compatible with each other.

28. Applicant next argues in pages 8-9, with regard to claims 1-20, that Alexander fails to disclose that the child dialog boxes are not annotated nor that a stacking order may be determined based on a data type and that neither Tomm nor Tran teaches the



*amended limitation of "said hierarchy reflecting a stacking order based on at least one of an annotation to a sketched version of an object, a containment of un-annotated objects within an object and data types of un-annotated objects, wherein said annotation indicates a priority for the annotated object and said un-annotated objects are recognized to obtain a priority of the containing object; and wherein said stacking order determines to which of two objects has priority to overlay the other of the two in said GUI".*

The examiner respectfully disagrees.

Tomm does in fact teach "*said hierarchy reflecting a stacking order based on a containment of un-annotated objects within an object and data types of un-annotated objects*" in their teaching of column 4, lines 43-45, where they teach essentially that hierarchy is determined based upon containment of objects. With respect to applicant's use of the term "un-annotated", the examiner interprets this annotation to be that of priority level such as those shown in their Fig. 4, numbers 410, 422, and 424, and is described in their specification at page 6, lines 1-5, where they specifically define these terms as a "list version" which indicates priority to overlay. As Tomm does not teach of such a priority specification, their objects are considered to be "un-annotated".

### **Conclusion**

29. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

-Geaghan et al. (US 5,790,114), electronic whiteboard with multifunctional user interface.

-Blume, (US 2004/0056900), system and method for window priority rendering.

-Vienneau et al. (US 2005/0172242), generating a user interface.

-Wakai (US 2007/0052685), information processing apparatus and GUI component display method for performing display operation on document data.

30. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

31. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GREGORY A. DISTEFANO whose telephone number is

(571)270-1644. The examiner can normally be reached on Monday through Friday, 9 a.m. - 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doug Hutton can be reached on 571-272-4137. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/GREGORY A DISTEFANO/  
Examiner, Art Unit 2176  
8/30/2008

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